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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,212	12/09/2005	Rudolfus Antonious Van Benthem	21580USWO (C038435/019415)	2957
7590 Stephen M Haracz Bryan Cave 1290 Avenue of the Americas New York, NY 10104			EXAMINER FREEMAN, JOHN D	
			ART UNIT 1709	PAPER NUMBER
			MAIL DATE 08/07/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,212	Applicant(s) VAN BENTHEM, RUDOLFUS ANTONIOUS	
	Examiner John Freeman	Art Unit 1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

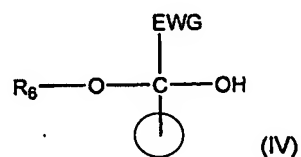
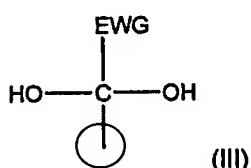
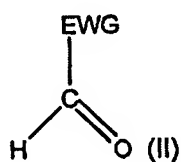
Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: formulae (III) and (IV) are partially ambiguous. The ambiguity stems from the fact that other formulae, e.g. formula (II), have clearly labeled hydrogen atom constituents, but formulae (III) and (IV) do not.



2. The circled areas on both structures (III) and (IV) could imply either a methyl group, or a free site whereby any group could be attached at that position. From the other structures disclosed, it appears Applicant intended for said sites to indicate a hydrogen atom at each position. If it was intended to be a free site, Applicant should clearly indicate this.

3. Appropriate correction is required.

Claim Objections

4. Claims 6 and 7 are objected to because of the following informalities: the claims should recite the chemical structures used (i.e., formulae (I) and (V)). Claim 6 should not reference claim 1 unless it is meant to be dependent upon claim 1. Examiner has interpreted claim 6 to be an independent claim for the purposes of this office action. Appropriate correction is required.

Double Patenting

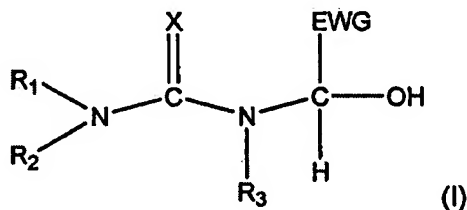
5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

6. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

7. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 6-13 of Application 10/560212 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7-21 of copending Application No. 11/707952 in view of Kiritani et al. (3,981,821).

9. In Application 10/560212, Applicant claims encapsulated material wherein the wall material comprises a resin made from a compound according to the following formula (I):



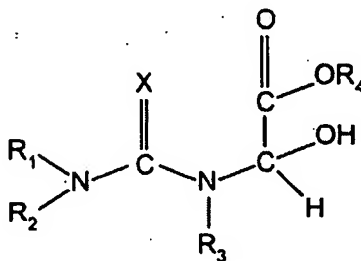
where X is O or NR₅;

EWG is an electron-withdrawing group;

R₁, R₂, R₃, R₅ are equal to an H, alkyl, cycloalkyl, aryl or heterocyclic group; and
R₁, R₂, and R₅ or R₁, R₂, and R₃ may together form a heterocyclic group.

10. Note that Applicant considers an ester group to be an electron-withdrawing group, as evidenced by claim 2, which creates a limitation that defines the EWG as one of a collection of functional groups including an ester group.

11. In Application No. 11/707952, Van Benthem et al. claim processes for making the following compound as well as amino-aldehyde resins prepared from the following compound:



where X is NR₅ (claims 7-10), or O or NR₅ (claims 11-21);

R₄ is equal to a C₁-C₁₂ alkyl group, aryl group, aralkyl group or cycloalkyl group;
R₁, R₂, R₃, R₅ are equal to an H, alkyl, cycloalkyl, aryl or heterocyclic group; and
R₁, R₂, and R₅ or R₁, R₂, and R₃ may together form a heterocyclic group.

12. The claims in Application No. 11/707952 are directed toward processes for making the same compound as in Application No. 10/560212. However, Application 11/707952 is silent with regards to encapsulated materials.

13. Kiritani et al. (3,981,821) disclose a method for preparing microcapsules containing a hydrophobic liquid (col. 1 ln. 6). The process involves emulsifying the hydrophobic liquid as a disperse phase in a hydrophilic liquid, polymerizing a wall-

Art Unit: 1709

forming substance present in the hydrophilic liquid phase, and depositing said substance around the hydrophobic liquid droplets (col. 2 ln. 10+). Kiritani et al. disclose that the wall-forming substance can be any water-soluble compound which can either self-polymerize or react with another reactant to form water-insoluble polymers (col. 3 ln. 31-36). They also list examples of such compounds, including urea resins, melamine resins, a urea resin and an aldehyde compound, and a melamine resin and an aldehyde compound (col. 3 ln. 44-54).

14. Thus, at the time of the invention, claims 6-13 would have been obvious to one of ordinary skill in the art given claims 7-21 of copending Application No. 11/707952 in view of Kiritani et al. It would also be impossible to practice the subject matter of Application No. 10/560212 without infringing upon Application No. 11/707952.

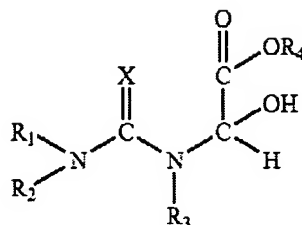
15. This is a provisional obviousness-type double patenting rejection.

16. Claims 6-13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 7,199,209 in view of Kiritani et al. (3,981,821).

17. In Application 10/560212, Applicant claims encapsulated material wherein the wall material comprises a resin made from a compound according to formula (I) as above.

18. In U.S. Patent No. 7,199,209 Van Benthem et al. claim the following compound:

Art Unit: 1709



where X is NR₅;

R₄ is a C₁- C₁₂ alkyl group, aryl group, aralkyl group, or cycloalkyl group;

R₁, R₂, R₃, R₅ are equal to an H, alkyl, cycloalkyl, aryl or heterocyclic group; and
 R₁, R₂, and R₅ or R₁, R₂, and R₃ may together form a heterocyclic group.

19. The claims in Application No. 10/560212 are directed toward processes for making the same compound as claimed in Patent No. 7,199,209. However, Patent No. 7,199,209 is silent with regards to encapsulated materials.

20. Kiritani et al. (3,981,821) disclose a method for preparing microcapsules containing a hydrophobic liquid (col. 1 ln. 6), as explained above.

21. Thus, at the time of the invention, claims 6-13 would have been obvious to one of ordinary skill in the art given claims 7-21 of copending Patent No. 7,199,209 in view of Kiritani et al. It would also be impossible to practice the subject matter of Application No. 10/560212 without infringing upon Patent No. 7,199,209.

22. Examiner notes that, as this is a 371 National Stage application, all of the claims, including claims 1-5, define a unified invention.

23. Applicant is also reminded of his duty to disclose all relevant documents that are pertinent to his case.

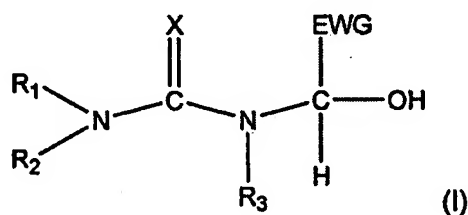
Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over North (4,285,690) in view of Kiritani et al. (3,981,821).

26. Applicant claims a process for making capsules wherein the wall material comprises a resin made from a compound according to the following formula:



where X is O or NR₅;

EWG is an electron-withdrawing group;

R₁, R₂, R₃, R₅ are equal to an H, alkyl, cycloalkyl, aryl or heterocyclic group; and
R₁, R₂, and R₅ or R₁, R₂, and R₃ may together form a heterocyclic group.

27. The process involves dissolving the above compound in a solvent, dispersing a core material into the formed solution, covering the core material with the resin, and optionally hardening and/or recovering the capsules. Applicant also claims the resultant encapsulated material and various potential embodiments.

28. The examiner interprets the phrase "R₁, R₂, and R₃ may together form a heterocyclic group" to include the case where R₂ and R₃ may be constituents of the

heterocyclic ring itself, while R_1 is an N-substitution of the heterocyclic group. Even though R_1 is not contained within the ring, it is still part of the heterocyclic group. The case where R_1 and R_2 compose a double bond in the heterocyclic ring is another considered interpretation.

29. North (4,285,690) discloses a product resulting from the reaction between a cyclic urea and glyoxal (col. 1 ln. 59-62). The resulting product is thus a subset of the general compound described by Applicant since glyoxal is an aldehyde that follows Applicant's formula (II) (p3). North also discloses that the product is water soluble; he uses an aqueous solution of the product in at least one example (col. 7 ln. 57).

30. While North directs his invention to the field of wrinkle-resistant fabric, he recognizes a multitude of different fields of endeavor to which one could apply the product (col. 3 ln. 37+), including film-forming resins for coatings (col. 3 ln. 50). The word "coatings" is interpreted as an analogous term for "resins".

31. Kiritani et al. (3,981,821) disclose a method for preparing microcapsules containing a hydrophobic liquid (col. 1 ln. 6), as explained above.

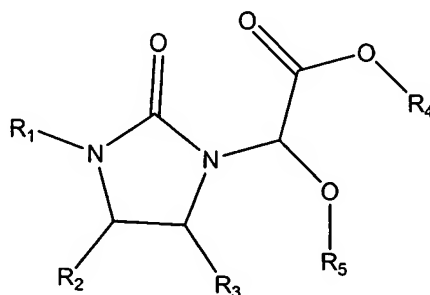
32. At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teaching of North with the teaching of Kiritani et al. The water-soluble resin created from North's teaching could be used in the process that Kiritani et al. describe with a reasonable expectation of producing a microcapsule.

33. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skoultchi et al. (4,770,668) in view of North (4,285,690) and Kiritani et al. (3,981,821).

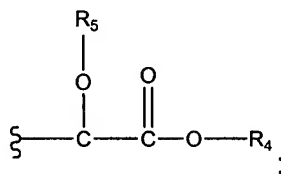
Art Unit: 1709

34. Applicant's claims are previously described.

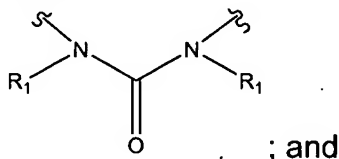
35. Skoultchi et al. disclose the production of the following compound for use as a permanent press, or wrinkle-resistant, fabric agent (col. 2 ln. 12+):



where R1 is alkyl or the following



R2 and R3 are OH, H, or combine to form



R4 and R5 are alkyl, hydroxyalkyl, or H.

36. The compound according to Skoultchi et al. wherein R1 is an H, or alkyl, and R5 is an H, is one that falls under Applicant's claim. Skoultchi et al. disclose that the invention is water soluble, as evidenced by the preferred embodiment of an 8% aqueous treatment solution of the compounds (col. 5 ln. 65).

37. Skoultchi et al. are silent with regards to using their invention toward coatings.

38. In view of North's disclosure, at the time of the invention, it would have been obvious to one of ordinary skill in the art to apply the invention of Skoultchi et al. toward

film-forming coatings. Both teach a method of making cyclic-urea compounds for use as a treatment for wrinkle-resistance in clothing. One in the art would search this class of compounds, recognize the homologous structures of both references, and therefore reasonably expect for the compounds to behave similarly in various reactions.

Specifically, as North teaches that the compounds of his invention can produce film-forming resins for coatings (col. 3 ln. 50), one of ordinary skill in the art would reasonably expect the compounds of Skoultchi et al. to be a suitable substrate for the production of film-forming resins.

39. Kiritani et al. (3,981,821) disclose a method for preparing microcapsules containing a hydrophobic liquid (col. 1 ln. 6), as explained above.

40. At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teaching of Skoultchi et al. with the teachings of North and Kiritani et al. One would recognize that the compound created by Skoultchi et al. could be used to make coatings in view of North. One would also then recognize that said compound could further be used in the process that Kiritani et al. describe.

Claim Rejections - 35 USC § 112

41. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

42. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Formula (I) of claim 1 and its dependents is

Art Unit: 1709

ambiguously defined. The description of formula (I) includes the phrase "R₁, R₂, and R₃ may together form a heterocyclic group," however, Applicant does not indicate whether R₁ and R₂ may together compose a double bond, or must instead be separate constituents of the heterocyclic group where, for example, R₁ is an N-substitution of a heterocyclic ring comprised by R₂ and R₃. Claim 6 and its dependents are rejected for the same ambiguity, as the examiner considers the language describing formula (I) in claim 1 to be incorporated into claim 6 (see paragraph 4 of this Office Action).

Conclusion

43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is 571-270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

44. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

45. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 1709

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**D. LAWRENCE TAPPA AND
PRIMARY EXAMINER**

A large, stylized handwritten signature in black ink, likely belonging to D. Lawrence Tappa, is written over the printed name and title.

John Freeman
Examiner
Art Unit 1709

A handwritten signature in black ink, likely belonging to John Freeman, is written to the right of the printed name and title.